

REMARKS

After amendment, claims 1-42, 47-48 and 55-61 remain pending in the present application, claims 43-46 and 49-54 having been cancelled. The amendment to claim 1 is made to address the Examiner's 35 U.S.C. §103 rejection and in particular, to provide evidence of the coaction between the claimed ingredients and the resulting claimed mineral water composition. This evidence is set forth clearly in the attached declaration of Neil Thomas Paulett. No other amendment has been made to the instant application to place the application in condition for allowance. Support for the amendment to claim 1 may be found throughout the originally filed specification and claims and in particular, *inter alia*, at page 11, lines 6-8. No new matter has been added to the application by way of the present amendment.

The Examiner has maintained her rejections of the previously filed claims under 35 U.S.C. §103 variously over Luk, Someya, Tuffley, Lindon, Mehanso, Dyrr and Jakubowicz for the reasons which are stated in the office action on pages 2-8. Applicants have amended claim 1 to recite limitations of the mineral water composition related to taste objections and cancelled claims 49-54. Applicants provide evidence for the patentability of the instantly claimed invention in the attached Declaration of Neill Thomas Paulett. Applicants respectfully submit that the claims as amended are now in condition for allowance.

The 35 USC § 103 Rejection

The Examiner has rejected previously submitted claims 1-42, and 47-52 under 35 U.S.C. §103 variously over "A survey on the composition of mineral water and identification of natural mineral water", *Intl. J. Food Science and Technology*, 2002, 37, 309-317 ("Luk") in view Someya, U.S. patent no. 4,540,584 ("Someya"), Tuffley, international patent publication WO02/00043 ("Tuffley"), Lindon, U.S. Patent no. 4,325,975, Mehansho, et al., U.S. patent no. 7,090,878 (Mehansho) and Dyrr, et al., international patent publication WO 01/52672 ("Dyrr"), for the reasons which are stated in the June, 2008 office action on pages 2-6. Separately, the

Examiner has rejected original claims 53-61 (now, after amendment, claims 55-61) under 35 U.S.C. §103 variously over the above-referenced publications, further in view of Jakubowiz, DE Publication 19700368 ("Jukobowiz") for the reasons which are set forth in the June, 2008 office action on pages 7-8. Inasmuch as Applicants have amended claim 1 to recite the avoidance of certain taste objections as limitations, Applicants shall address the references which are cited against the instant Applicant in a single section. Applicants respectfully submit that the instantly claimed invention cannot be provided by the teachings of the art cited against the previously submitted invention. As presented in the following paragraphs, Applicants respectfully submit that the presently claimed invention is non-obvious and patentable over the teachings of the cited references.

The Rejection of Claims 1-42, 47-48 and 55-61

The Examiner has rejected previously submitted claims 1-42 and 47-48 as being obvious over the teachings of the cited prior art Luk, in view of Someya, Tuffley, Lindon, Mehansho and Dyrr for the reasons which are set forth on pages 2-6 of the June, 2008 office action. The Examiner relies on Luk for providing the composition of about 60 mineral water samples and takes the position that Luk discloses amounts in group a and b of the present invention within the claimed amounts except for phosphorous, elemental levels of which are not measured. The Examiner states that in connection with the lack of reference to phosphorous in Luk, Someya discloses that it is known to make a beverage from coral sand, which contains phosphorous.

The examiner further points to the disclosures of Tuffley, Mehansho, Lindon and Dyrr to provide further evidence of non-obviousness of the present invention. In particular, the Examiner states that all of the minerals of group a and b of the present invention are disclosed in those references. Further, the Examiner argues that "The particular amounts are seen as being within the skill of the ordinary worker" and "the discovery of an optimum value of a result effective variable is ordinarily within the skill of the art." citing *In re Boesch*.

The Examiner further states that "In developing a water product containing minerals,

properties such as taste and nutrition are important. It appears that the precise ingredients as well as their proportions affect the taste and nutrition of the product, and thus are result effective variables, which one of ordinary skill in the art would routinely optimize."

The Examiner also states that in the case of new recipes or formulas for cooking foods which involve the addition or elimination of common ingredients ... do not amount to invention .." " .. there is nothing patentable unless the applicant .. further establishes a co-action or cooperative relationship between the selected ingredients which produces a new, unexpected, and useful function."

The Examiner further relies on the teachings of the previously cited references in combination with Jakubowicz to reject claims 55-61 for the reasons which are set forth in the office action on pages 6-7.

In response to the rejections of all of the previously filed claims 1-42, 47-48 and 55-61, Applicant recites the arguments previously made on pages 14-19 of the response of March 26, 2008 here and further, provides the following comments and evidence which is presented in the attached Declaration of Neil Thomas Paulett, attached hereto, which clearly evidences that the instantly claimed invention is patentable over the combined disclosures relied upon by the Examiner in making her obviousness rejection. It is respectfully submitted that the evidence which is presented clearly establishes the patentability of the instantly claimed invention.

In essence, the present invention as claimed is directed to a mineral water composition which further provides that a balance of elements that may typically on their own be poor tasting can result in a desirable tasting beverage (mixture). The limitations of avoiding taste defects as claimed without the inclusion of a flavor or sweetener composition are clearly set forth in amended claim 1 and through dependence, the remaining claims of the instant application. None of the citations, alone or in combination shows the balancing which occurs by virtue of providing the instantly claimed compositions and none provides mineral water compositions with an absence of taste defects in the manner as claimed. Each of the citations use another factor, to

achieve the result being a taste masking or off-taste neutralising agent. It is thus not demonstrated in the cited art, nor is it shown to be part of the knowledge of the skilled artisan, to balance off two or more elements (let alone seven or more elements) to achieve a taste balance.

The rationale for preparing a mineral water are given at page 27 line 10, namely that ". . . pure water is tasteless however this does not provide a satisfying taste sensation." A plain water has a taste that is not desirable on it's own. The many flavoured beverages that are available show that consumers want more than just plain water.

Amongst the flavoured beverages available for purchase are many hundreds (perhaps thousands) of natural mineral waters, some of which are said to provide or are perceived to have some health benefit, others are consumed simply for their taste.

A great many mineral waters are known to have off flavours, which may be considered an inherent property of mineral waters.

In support of the patentability of the present invention, we forward herewith a declaration by Neil Thomas Paulett, who has tested a number of commercially available mineral waters, showing the extent of the off flavours in the samples thus far tested.

It was an important aim of the present inventor not to provide a source of recommended daily allowance of one or more minerals with a view to providing a health benefit, but rather to provide, particularly in still water, a mineral water with taste that is perceived to be balanced, and that provides a complexity that is satisfying without the addition of sweeteners or artificial flavours.

Given the complexity of the desired flavours, the present invention requires more than just adjustment of levels of individual minerals. This is because the taste imparted by each of the minerals is impacted by other flavour the mineral mix.

As indicated in remarks made on behalf of the inventor in the previous response filed on March 26, 2008, this aim was achieved, in part, by the inventor devising a categorization of taste components as set out in Table 1 of the present application. The categorisation facilitates taste testing in a manner that is more objective than it otherwise would be to score and compare the tastes of mineral waters. Such a manner of testing is conducive to assessment of what varying one mineral or groups of more than mineral does to components of taste.

Moreover, while it is accepted that some of the off flavors caused by individual elements concerned are known, for example, excess calcium leads to an earthy taste, the taste contribution of many minerals and combinations of minerals was not.

Applicant agrees with the Examiner that the contribution to taste of relatively minor concentrations of minerals may at first glance be thought not to make a contribution to the overall taste of the manufactured mineral water, the data shown in table 3 shows that they in fact, surprisingly do.

Examples 7, 8, 9, 19 and 20 (specification) show mineral water having the identical amounts of A and B but varying amounts of elements of C and D have considerable variation in taste. This demonstrates that contrary to the Examiner's assertion tat varying concentrations of elements C and D do have an impact on the taste of the water.

Thus, take for instance the examples 8 and 9 of the present application. The composition of example 8 and 9 differ in that example 9 has no group C and D elements.

In comparing the tasting notes for these to examples it is notable that whilst taste components 1 through 3 are identical - taste components 4 and 7 vary. The presence of some of group C brings the taste component 9 (saltiness) from too weak into the acceptable range, the minerals that are present in 8 and not 9 are the following (Cr, Co, Li, Mo, Ni, , Sn and V) the inventor knows of no reason why these elements should bring an otherwise weak level of saltiness to a level that is acceptable.

Similarly comparing example 7 with example 8 it can be seen that there is a variation in the level of the C and D elements so that example 7 includes (B, I, Se, Zn and Fe). it can be seen that these C and D elements bring the persistence of taste to an acceptable level compared to Example 9 where no C or D are present, or in example 8 where different C and no D minerals are present.

Comparing example 19 and 20 variations in C and D elements vary the palate (taste component 3) in 19 from "front only" to "predominantly front" in example 18. When comparing to example 7, 8 and 9 taste component 8 (mineral sensation) is metallic as opposed to too weak. When compared to examples 8 and 9 persistence (taste component 4) is acceptable rather than "no persistence" or "dissipates quickly".

Similarly if we look at examples 10, 11 12, and 13, we see the following. Comparing examples 11 and 13 Group A, C and D elements are maintained the same but group B elements are varied, thus P, Si Na and Cl are varied and it can be seen in table 3 that the taste components 1 (initial sensation) and 2 (mouthfeel sensation) changes from "acceptable" to "weak", and 3 (palate balance) from "predominantly front" to "acceptable" and taste component 7 (saltiness) changes from "saline" to "too weak".

Comparing examples 10 and 12 Group A C and D elements are maintained the same but group B elements P, Na and Cl are varied. Taste component 1 (initial sensation) is varied from acceptable to weak, 3 (palate balance) is changed from "balanced" to "predominantly back", 6 is varied from "too strong" to "acceptable" and component 8 is varied from "acceptable" to "too weak".

It can thus be seen that varying group B elements also has a significant impact on the taste of the minerals water, and these changes in taste components can be separated out.

It is thus submitted that this result is not simply a case of varying the levels of one or more minerals where the effect of each of the minerals is a known function. The taste properties

of a great many of the minerals, including some of the group B elements, is not known, and accordingly it is submitted varying them is not a straightforward matter of optimising taste. These are not "known functions"

The examples prepared to show variations in taste according to the examples are not the only mineral waters that vary in taste. We refer to the attached declaration by Neil Thomas Paulett, who compares the taste components of a number of commercially available minerals waters. It can be seen that each of the mineral waters tested has a differing taste profile when tested against the Inventor's scheme of taste testing. The composition of each of these test mineral waters is not fully published and thus, what has driven each of the taste components in the test mineral waters is not totally clear.

We note Mr Paulett's opinion that he considers the tasting of mineral waters to be repeatable.

It also shows that consumption of mineral waters in certain markets appears not to be solely driven by taste. Thus, the mineral waters, Evian, Poland Springs and Fiji (see attachments to the declaration) are on the inventor's understanding sold widely and in large quantities, despite the fact that they have significant off flavours. There is often a type of mystique surrounding mineral waters and their perceived benefits. Thus Evian for example markets a number of health and beauty products with alleged health benefits said to be derived from the properties of its mineral water. This is clearly not an exact, or predictable, science.

Applicants note that the Examiner argues that there is nothing to show that off flavours are present at levels of minerals used in the present invention. Applicants submit that the data shown for the present invention show that, in fact, off flavors result where the mineral composition of the water is off balance.

The Examiner asserts that Luk shows that various mineral waters is known, but not with the addition of phosphorous. The Examiner states that "nothing is shown that using phosphorous

in particular amounts affects the taste of the composition." We therefore fail to see what motivation there is to add phosphorus to any one of the compositions disclosed in Luk to make the new composition obvious.

Further with respect to Luk, the Examiner does not show which of the mineral compositions phosphorus is to be added to - The inventors find it difficult to comprehend that corollary of the assertion by the Examiner that because each mineral is known to be added to water, it doesn't matter what levels they are present in a water - therefore if one were to hunt and peck amongst the various formulations one could find the levels of each of the elements as defined in claim 1 and cobble together the formulation of claim 1 - Applicant respectfully submits that the Examiner should point to one of those formulations as being the formulation to which phosphorous is to be added. In any event none of the of the formulations of Luk otherwise fall within the definition of claim 1 and accordingly the Examiner has not presented us with a valid/cogent obviousness objection.

None of the documents considered in the prosecution of the present application have a composition where the concentration of the seven elements set forth by claim 1 are all within the range as defined therein.

Levels of minerals clearly impact on taste of a composition. The Examiner has stated that insofar as she states that the levels of the minerals C and D would in her view be present in too small an amount to impact on flavour. The natural corollary of that statement is that larger amounts of other minerals will therefore have a greater impact, and the balance between a mineral present in larger amount and a smaller amount will be impacted by the relative level.

It is shown that the taste of the mineral water composition is not merely the sum of each mineral imparting its known flavour on the water, but that the taste of the water is the unpredictable collocation of flavours of one or more/all/several of the elements used therein.

Claim amendments introduce the eight part taste requirement, so that the non-acceptable

aspects of these taste components are not present in the mineral water. It is submitted that these taste components are shown and references given to how they taste. The attached declaration by Neil Paulett clearly evidences that the test using the 8 taste components herein defined is repeatable. It is respectfully submitted that the presently pending invention is now patentable over the cited art.

For all of the above reasons, it is respectfully submitted that the present application is now in condition for allowance and such action is earnestly solicited. Ten claims (43-36 and 49-54) have been cancelled and no claims have been added. No fee is therefore due for the presentation of this amendment. A petition for a three month extension of time is enclosed as is the appropriate fee. Small entity status applies to the present application.

The Commissioner is authorized to charge any fee or credit any overpayment to deposit account 04-0838.

Respectfully submitted,
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